

## Sustained Acoustic Medicine for Improved Recovery from Tendinitis

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Tendon injuries account for 30% of sports-related injuries and 7% of all primary care physician visits, but there is currently no gold standard of treatment. Therapeutic ultrasound has been used for over 80 years to treat sports injuries, but treatment has been confined to the clinician's office which limits both the duration and frequency of application. Sustained acoustic medicine (sam) is the application of continuous low-intensity long duration ultrasonic waves to accelerate repair processes deep within soft tissues.

**PURPOSE:** To evaluate the use of a long duration therapeutic ultrasound device to relieve pain and enhance tendon strength. **METHODS:** In the current study, 25 patients with diagnosed tendinitis used a portable sam device 5x/week for 4 hours a day over six weeks. Patients recorded their pain before, during, and after treatment using a 10-point visual analog scale (VAS), and strength measurements were taken every two weeks. Repeated measures ANOVAS were used to compare pain scores and strength measurements. **RESULTS:** Patients reported significantly less pain over the course of the study (2.0 decrease in VAS,  $p < .005$ ), as well as over the course of each daily treatment (0.6 decrease in VAS,  $p < .001$ ). Grip strength also significantly increased from baseline measurements in injured limbs (3 kg increase,  $p = .05$ ), but not uninjured limbs. **CONCLUSION:** Results from this pilot study suggest that sustained acoustic medicine reduces pain from tendinitis and increases tendon strength. Given the availability of portable platforms to allow convenient delivery of sam, these findings are promising for the development of a new gold standard of treatment.

Statement of Disclosure:

The sponsor, ZetrOZ, Inc., provided the therapeutic ultrasound devices used in this study.

